

Application No. 10/675,569
Amendment dated 10/25/2005
Reply to Office Action of 7/25/2005. /

REMARKS

Claims 1-19 are pending in this application. Claims 2, 9, 14, 15 and 18 are amended herein. No new matter is added, and entry of the amendments provided herein is respectfully requested. After entry of amendments herein, claims 1-19 remain pending.

It is noted that claim 18 is amended merely to add a space between the words "rate" and "whereby," to correct an inadvertent typographical error.

Claim Rejections – 35 USC 112, Second Paragraph

Claims 14-17 stand rejected under 35 USC 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. Generally, the Office action points to three phrases alleged to lack insufficient antecedent basis.

Applicant provides amendments to claims 14 and 15 herein. These are directed to overcome the identified bases for rejection of claims 14-17 under 35 USC 112, second paragraph. Entry of these amendments and withdrawal of this basis for rejection are respectfully requested. It is acknowledged that as claim 14 originally was written, the term "means for metering" refers to and broadly includes a "mass flow controller." This is evidenced by the inadvertent use of "mass flow controller" after "said" in line 5 of claim 14, where there is no previously introduced term other than "means for metering" that logically fits in this place. Further, initial and subsequent referral to the term "means for measuring" is corrected. Also, use of "line b" referral is properly replaced. No new matter is added.

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Claim rejections – 35 USC 103

Claims 1-6 and 8-19 stand rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Brown (U.S. Patent 6,119,710) in view of Hinkle (U.S. Patent 5,684,245). Claim 7 stands rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Brown and Hinkle as applied to claims 1-6 and 8-19, further in view of Nishikawa et al. (U.S. 6,273,954).

First, as to the rejections of claims 1-6, 8-19 and 7, it is asserted that a prima facie case of obviousness has not been made. This assertion is supported by the following explanation and argument:

1. The Brown '710 reference teaches a separate line (referred to in the Office action as "bypass line") comprising a "calibration volume" that requires a discontinuous flow through the bypass line in order to achieve its measuring function (see col. 3, lines 3-42, in particular noting "First, the calibration volume is charged to a prescribed level."). This approach differs from the present invention. For example, in claims 1 and 8 the bypass loop comprises "a flow detector for measurement of a gas flow flowing through said bypass loop." The Office action does not provide any evidence or explanation of how the "calibration volume" (i.e., 203, 403) of Brown '710, which requires cessation of gas flow for a period to achieve its measurement, is equivalent to "a flow detector for measurement of a gas flow flowing through said bypass loop." Nor is provided any explanation of why or how one of ordinary skill in the art would substitute one device for the other. Accordingly, there is no basis for using or combining this reference in the noted rejections. This same line of reasoning applies to the Hinkle '245 reference, the apparatus of which also comprises a chamber 14 that measures gas mass during discrete controlled fixed volume periods, when flow through the area of the chamber is ceased such as by valving (col. 8, lines 42-49, in particular " . . . bypass circuit 53 controlled by upstream and downstream shutoff valves 20, 22 which can be closed for each measurement so as to insure a

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constant volume V."), rather than as claimed herein, "a flow detector for measurement of a gas flow flowing through said bypass loop." (underline emphasis added)

2. Even assuming the appropriateness of the rejection based on equivalent limitations, which the Applicant presently strongly disputes and does not concede, a prima facie case of obviousness has not been made because the Office action does not provide a teaching, suggestion or motivation to combine the Brown '710 and Hinkle '245 references. The Office action states (incorrectly in Applicant's viewpoint) that Brown '710

"discloses the claimed invention with the exception of explicitly disclosing the bypass loop to be connected to either the process line or the vent line between the mass flow controller and the process chamber. Brown discloses the bypass loop to be located upstream of the mass flow controller (422-423, 430). Hinkle discloses a flow arrangement for calibrating a mass flow controller wherein the bypass loop (see Fig. 4C) is disposed downstream of the mass flow controller (24) for the purpose of calibrating the mass flow coming out of the mass flow controller. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Brown the bypass loop downstream of the mass flow controller for the purpose of calibrating the mass flow coming out of the mass flow controller, as evident in Hinkle." (pages 3-4, paragraph breaks omitted)

Critically, the last sentence provides no basis, that is, no explanation with any specificity (e.g., specific reasoning) to support combining the references, and instead is conclusory. Because the Office action provides no explanation for combining the references, a prima facie case of obviousness has not been made (See *Ex parte* Humphreys, 24 USPQ 2d 1255 (B.P.A.I. 1992)).

Because the Brown and Hinkle references also apply to claim 7, further in view of Nishikawa et al. (U.S. 6,273,954), the above bases for the lack of a prima facie case of obviousness apply to claim 7 as well as to claims 1-6 and 8-19. Also, the lack of establishment of a prima facie case based on the above arguments applies to overcoming the asserted obviousness rejection regarding method claims 18 and 19.

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Based on the above, either separately or collectively, the obviousness rejections of claims 1-19 should be withdrawn. Applicant respectfully requests withdrawal of such rejections.

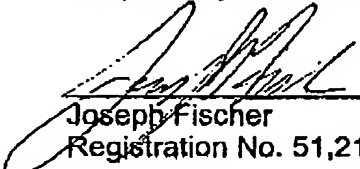
Additional Matters

The Office action notes "... that the provision of a digital mass flow controller for a flow detector in the bypass loop is a design expedient over those features disclosed in the combination of Brown and Hinkle in that a digital mass flow controller is a known flow meter that is an art recognized equivalent to other accurate flow detectors." (Page 4) It appears that this statement is based on personal knowledge or provides judicial notice. It is Applicant's view that use of a mass flow controller in a bypass line as a flow detector is not obvious. As non-limiting support for this, in embodiments of the present application a mass flow controller in the bypass line is recording flow, and is not controlling flow. This is a non-traditional utilization, and the positioning of such mass flow controller having this function, as disclosed in the specification and claims, has not been shown by appropriate evidence to be obvious. Accordingly Applicant respectfully requests an affidavit, documentation, and/or other evidence from the Examiner to support the above-quoted statement. Further in this regard, in consideration of Applicant's stated view, which is not restricted to digital mass flow controllers, Applicant has amended claims 2 and 9 to remove the term "digital."

* * * * *

The Examiner is invited to call the undersigned if clarification is needed on any aspects of this Reply/Amendment, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,


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